

ABSTRACT

Cylinders having Al as a major constituent are
orderly arrayed in an (Si, Ge) matrix. In a
nanostructure in the form of a mixture film having a
5 plurality of cylinders having Al as a major
constituent, and a matrix region surrounding the
plurality of cylinders and having Si and/or Ge as a
major constituent, the total amount of Si and Ge is
in the range from 20 to 70 atomic % in the mixture
10 film, the cylinders are orderly arrayed, the diameter
of the cylinders is in the range from 1 to 30 nm, and
the interval between the cylinders is 30 nm or less.